October 28-29, 2025
Orlando, FL

TRANSPORTATION SYMPOSIUM

ADA – Lessons Learned

Brad Bradley – FDOT State ADA Coordinator
Derek Dixon & Belqis Majboor – D2
Zeke Hayes – D3
Loreen Bobo & Kari Pucker – D5

Transportation Symposium Website

SCAN ME

1

Pertinent Legislative History

Civil Rights Act
– 1964 –
Race, Color, National Origin

1

Architectural Barriers Act
– 1968 –
Buildings & Facilities

2

Rehabilitation Act (Sect 504).
– 1973 –
No Discrimination due to Disability

3

Americans w/ Disabilities Act (ADA)
– 1990 –
Title II – State & Local Governments

4

ADA Amendments Act
– 2008 –
Emphasized Broad Coverage

PROWAG?

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Pedestrian Elements

Don't overcomplicate it!

UNOBSTRUCTED CLEAR WIDTH
Clearance "window" over the full walking surface

PROTRUDING OBJECTS
Signs, utilities, equipment, landscape material

RUNNING & CROSS SLOPES
Parallel & Perpendicular to ped travel

WALKING SURFACE
Firm, Stable, Non-slip. Changes in level, horizontal openings

PEDESTRIAN SIGNALS
Reach distances and effective communication

Nominal Vs. Substantive Safety & Accessibility?

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Minimum Criteria for Safety & Accessibility

Refer to latest editions and other chapters!

FDM 222

FDM

SAFETY & ACCESS

FGB

FGB 8

A1A

1

What is a Pedestrian?

BRADLEY ST

LEE 884 COUNTY

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Technical Infeasibility

Documentation *required* by U.S. DOJ regulations!

FDM 122

FDM 222.1

FDM

FGB

FGB 14

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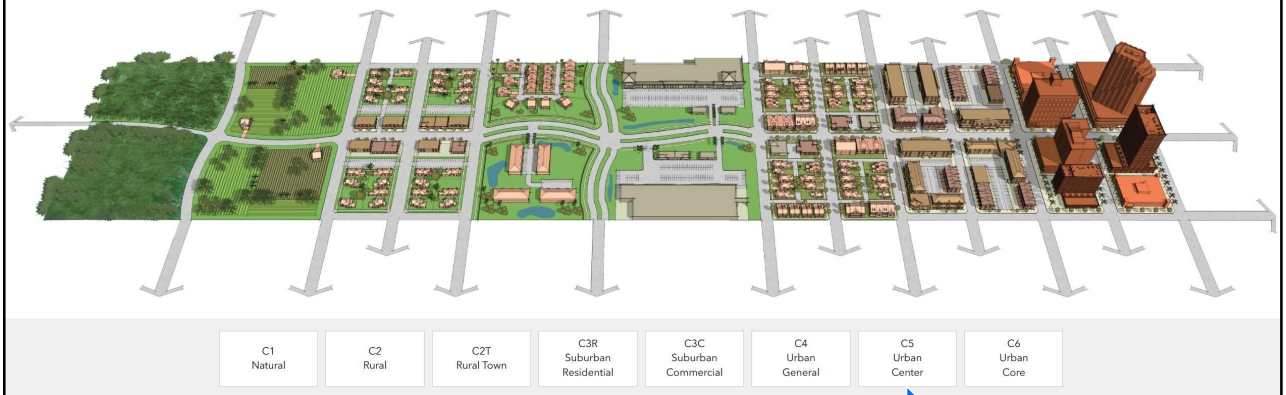
FDOT Sidewalk Policy



FDM 222.2.1 Provide sidewalk on all curbed roadways, except where prohibited . . .

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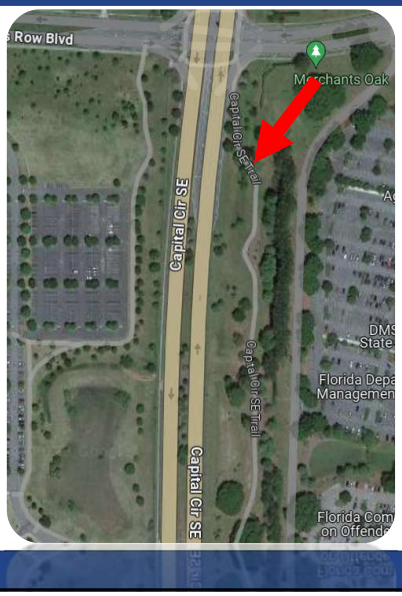
FDOT Sidewalk Policy (cont.)



Order of Desirability

- As near the R/W line as possible
- Outside the clear zone
- Five feet beyond the limits of the full width shoulder
- At the limits of the full width shoulder

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FDOT Sidewalk Policy (cont.)

All Title II roadway projects MUST provide new or upgrade existing **Curb Ramps** and **Detectable Warning Surfaces** to meet or exceed current standards!

Safety

POP

RRR

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Minimum Criteria

Standard sidewalk width varies by context classification

Table 222.2.1 Standard Sidewalk Widths

Context Classification		Sidewalk Width (feet)
C1	Natural	5
C2	Rural	5
C2T	Rural Town	6
C3	Suburban	6
C4	Urban General	6
C5	Urban Center	10
C6	Urban Core	12

Notes:

(1) For C2T, C3 and C4, sidewalk width may be increased up to 8 feet when the demand is demonstrated.

(2) For C5 and C6, when standard sidewalk width cannot be attained, provide the greatest attainable width possible, but not less than 6 feet.

(3) For RRR projects, unaltered sidewalk with width 4 feet or greater may be retained within any context classification.

(4) See ***FDM 260.2.2*** for sidewalk width requirements on bridges.

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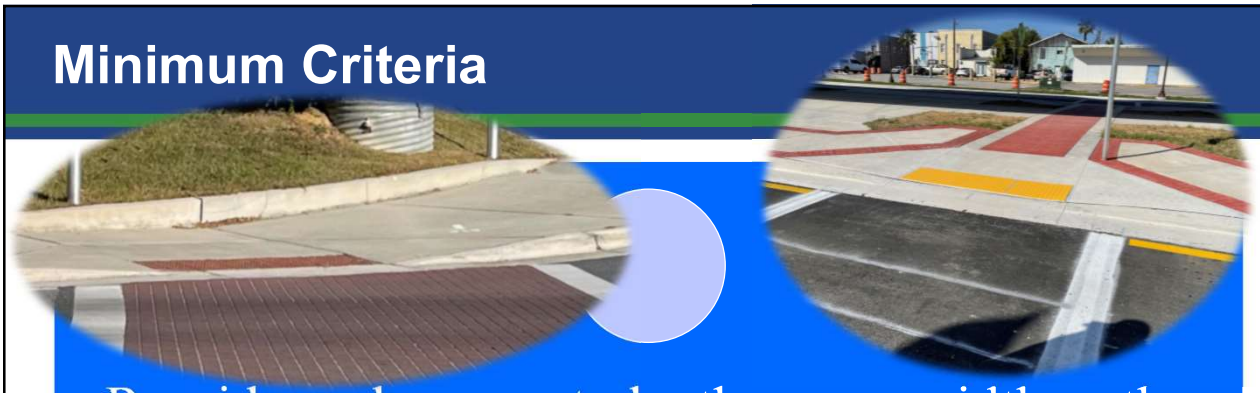
Minimum Criteria



Provide curb ramps to be the same width as the sidewalk where practicable.

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Minimum Criteria

222.2.2 Curb Ramps and Blended Transitions - Curb ramps should be in line with the crossing and provide non-visual physically detectable elements (e.g., concrete edge lines or curb lines) to clearly indicate the direction of the crossing. Provide the flattest ramp slope practicable, not to exceed a maximum slope of 1:12 (8.3 percent).

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Minimum Criteria

222.2.2 Curb Ramps and Blended Transitions - Provide a landing at all pedestrian pushbutton locations.

The landing must provide a clear area of 30 inches by 48 inches directly in front of the pedestrian pushbutton to allow persons using a wheeled mobility device to actuate the button while remaining stationary.

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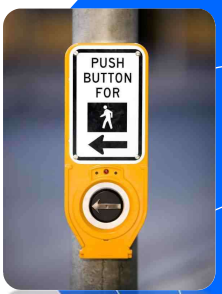
Minimum Criteria



222.2.7 Pedestrian Signals - See FDM 232.6 for information on pedestrian signals.

Pedestrian detector assemblies and pedestrian control signals are detailed in the Standard Plans, Indexes 653-001 and 665-001.

Accessible Pedestrian Signals (APS) in FDM 232.6.1!

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Minimum Criteria

240.2 A Temporary Traffic Control Plan (TTCP) is required for all work zones within, or adjacent to highways, roads and streets as specified by

Florida Statute (337.11(14) F.S.) and

Federal Regulations (23 CFR 630.1008).

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FDOT D2 ADA QAR Lessons Learned

Overview of **ADA compliance requirements**, **implementation challenges**, and **best practices**

Belqis Majboor, PE, ME, CPM and Derek Dixon
October 29, 2025

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Key Aspects of ADA Implentation

Historical Context & Legislation

Americans with Disabilities Act (ADA)
March 12, 1990
"Wheels of Justice"

Civil Rights Act of 1964
1990 ADA
expanded protections:

- **Title II:** State & Local Government
- **Title III:** Businesses

Walking Surface Standards

All walking surfaces must:

- Remain **firm**
- Be **stable**
- Be **slip resistant**
- Be **dry**

FDOT policy

Safety & Design Principles

Accessibility design incorporates safety concepts:

- **HSM Nominal Safety:** criteria
- **HSM Substantive Safety:** practical experience

Design Requirements

Critical dimensions:

- **7'** vertical clearance
- Ramps not to exceed **15'**
- **0.5"** Max grate opening, **elongated side perpendicular**

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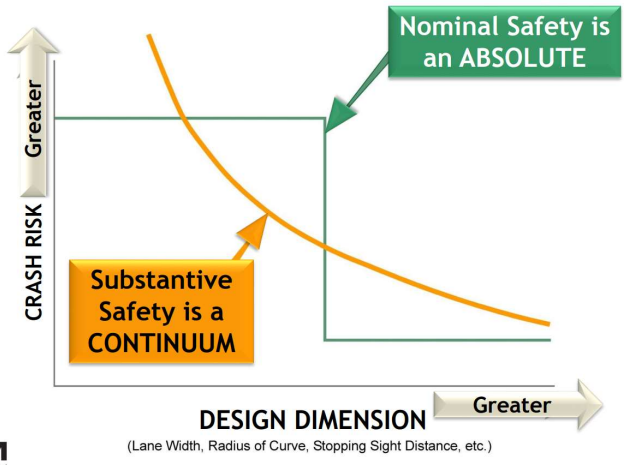
Key Aspects of ADA Implentation

Design Exception Insights



HSM Highway Safety Manual

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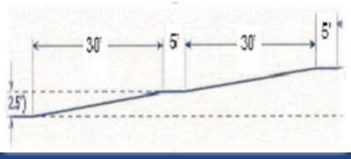
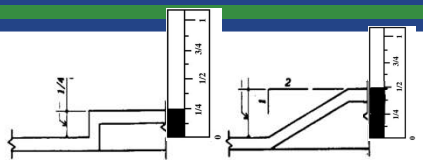
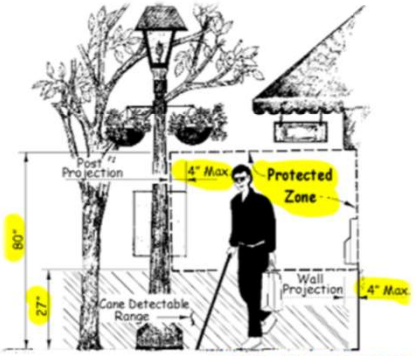
ADA Overview & Infrastructure Requirements

Walking Surface

- No height differentials with a lip greater than ¼" in height.
- Existing height differential between ¼" and 1/2"" must be beveled at a 2:1 slope,
- Height differential greater than ½" is a ramp slope of 1:12 or 8.33% or less.
- 5' x 5' level landings no more than 200' apart if walking surface width is less than 5'
- Running slope of 1V:12H, or 8.33% with 5'x 5' landing every 30 ft







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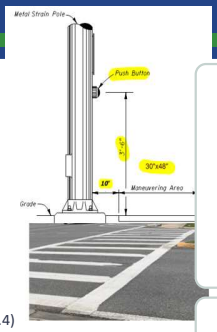
Minimum Requirements

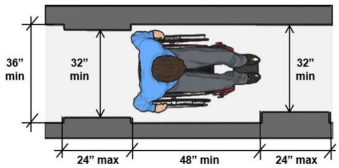
Pedestrian Pushbutton and Sign

- Must be parallel to crossing direction per Standard Plans 665-001
- Poles must be positioned at curb and wired for "Accessible
  "Accessible Pedestrian Signals" (APS) per FDM 232.6.1
- Poles must be 10' apart for proper operation



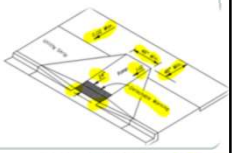
Sidewalk Standards

- Cross slope maximum: 2% & Max grade: 5%
- Adjacent to sidewalk: 1'-2' level at 1:6 (0.17) slope max (FDM 222.4)
- Minimum width utility pole: 36" (32" pinch points, 24" max length) & 48" signal
- Vertical clearance: 7' & Ped-Bridge over Roadway 17.5' & electrified RR 24.25'
- Width RRR: 4' minimum (**5'-12'** per FDM Table 222.2.1 & FDM 260 Bridges)



Curb Ramp Requirements

- Detectable warning surfaces cover entire curb ramp width (-2" maximum)
- Cross slope maximum: 2%
- Curb ramp slope maximum: 8.33%
- Alignment with crosswalks on opposite side



Temporary Traffic Control

- Maintain accessible routes horizontal/vertical
- Compliant temporary ramps and crosswalks
- Detour signage maintained during construction
- All temporary facilities must meet ADA requirements

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ADA Quality Assurance Review Report

The Quality Assurance Review (QAR) checks infrastructure projects for ADA compliance, identifying potential issues, and recommending corrective actions.

SUBJECT: Fiscal Year 2023/24 Americans with Disabilities Act (ADA) Quality Assurance Review (QAR) - District 2

Executive Summary

QAR field reviews were conducted, during the last week of February 2024, by the Production Support Office of the Office of Design. Primary staff included Brad Bradley, Ben Gerrell, and Daniel Eichler from the Central Office, Carey Shepherd from the FHWA-FL Division in Tallahassee, and District 2 staff. We extend a special thanks to Belqis Majboor and Derek Dixon for their amazing hospitality and conscientious engagement during the full QAR process, including our on-site visit.

The primary focus of this review was the inclusion of Temporary Traffic Control Plans (TTCP) and accommodations for pedestrians. Compliance with general accessibility provisions (e.g., ped push buttons, curb ramps, and detectable warning surfaces) was also assessed as reflected in the FDOT Design Manual (FDM) and FDOT Standard Plans for Road and Bridge Construction (Standard Plans).

Overall, the district was found to be in general compliance with the accessibility requirements and criteria. Some opportunities for improvement are identified in this report.

Findings

1. Per **FDM 222.2.2**, curb ramps should be in line with the crossing. Misaligned curb ramps were observed at numerous locations across the reviewed projects. This presents an opportunity for the district to better provide clear and effective tactile communication of the crossing direction for users who are visually impaired.
2. Per **FDM 232.6** and **Standard Plans Index 665-001**, Detail "A" and Note 2, Pushbuttons and Pedestrian Actuation Signs are required to be parallel to the crossing direction. (See also **MUTCD 4I.05 Pedestrian Detectors**, paragraph 04.H). Non-compliant pedestrian pushbutton and sign orientation were generally observed within all the reviewed projects, many of which had both buttons mounted on a single pole.
3. Per **FDM 240.2 & 240.2.1.9**, A Temporary Traffic Control Plan (TTCP) *for pedestrians* is required for all work zones within, or adjacent to highways, roads and streets as specified by Florida Statute and Federal regulations. Many cases were observed with inadequate provisions for pedestrians with disabilities.
4. Per **FDM 222.3**, install detectable warnings to cover the full width of the walking surface and 2 feet deep [*in the direction of ped travel*]. Multiple installations of Detectable Warning Surfaces (DWS) were observed that did not provide the specified 2-foot depth. In some cases, the DWS was not installed over the full width of the walking surface or ramp.
5. Per **Standard Plans 522-002**, Sheet 4 of 7, the DWS must be located within 5' of back of curb at the longest dimension. Locations were observed in which the DWS was located greater than 5' from back of curb.
6. Per **FDM 222.2.1.2**, provide a minimum 7-foot vertical clearance over the entire walking surface. Locations were observed with vegetation overgrowth encroaching within the required 7-foot clearance. See also **Maintenance Rating Program Handbook** requirements for vertical clearance to vegetation.

Recommendations

1. Pedestrian TTCP – Please ensure EORs provide sufficient details in the plans along with appropriate standard Curb Ramp (CR) callouts at each location for Contractors to install compliant accessible elements. Verify appropriate CEI oversight for as-installed conditions to match EOR's intent expressed in the plans.
2. Pedestrian Pushbuttons – Specify the orientation of pedestrian pushbuttons and signage, in the plans, to be parallel with the crossing direction. The use of separate poles for each direction of crossing is best practice for conventional ped features but a requirement when using Accessible Pedestrian Signals (APS) per **FDM 232.6.1**. 10' apart
3. Curb ramp & Crosswalk Alignment – Provide crosswalks and curb ramps with a tangent alignment – preferably with the shortest crossing distance. Provide ramp slopes and other non-visual, physically-detectable features (e.g., edge lines or curb returns) to clearly and effectively communicate the proper direction of the pedestrian crossing. This will aid users with sight impairment by providing detectable orientation and alignment cues.
4. Detectable Warning Surfaces – The district's plans review efforts should continue to include targeted attention to ensure functional DWS installations specific to individual site constraints and configurations. The DWS – as a vital safety element – must be kept in functional condition through regular maintenance and replacement activities.

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ADA QAR Lessons Learned: Key Findings

Curb Ramp Alignment
Detectable Warning Surface

Pushbutton Orientation
Parallel to Crosswalk

Temporary Traffic Control
Access

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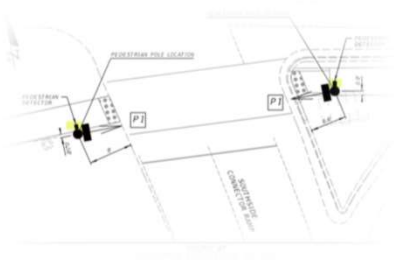
Detectable Warning Surface



Common Implementation Challenges

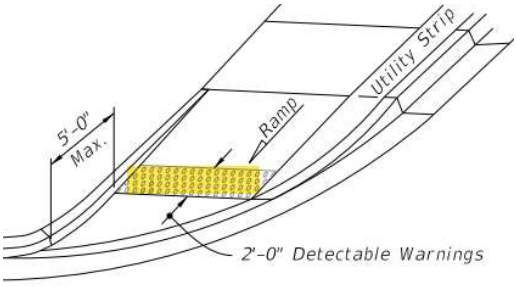
- **Improper Placement**
  When placed beyond maximum 5’ boundary
- **Insufficient Width Coverage**
  To alert users of danger zones
- **Deterioration Over Time**
  Maintain color, contrast, and service life

Proper Placement and Dimensions

Detectable warning surfaces alert pedestrians

Installation Requirements: 522-002

- Full width of curb ramp (minus 2" maximum tolerance)
- Placed 5’ Max from back of curb/ edge of pavement
- Standard 2' depth in direction of travel
- Truncated dome pattern / specific spacing and dimensions
- High contrast with surrounding surface (typically yellow)



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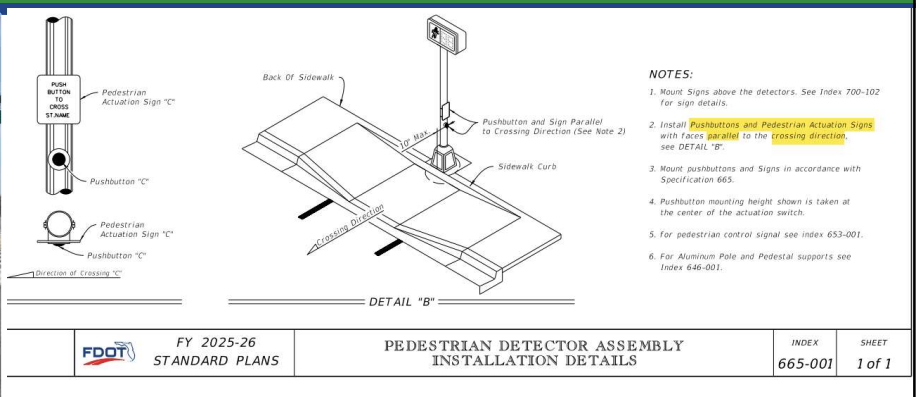
Pedestrian Pushbutton Design Standards 665-001



- Push Button face parallel to crosswalk & Signage indicate crossing
- Mounting height: 42" & Clear space of 30" × 48" at each pushbutton
- Located within 10' of edge of curb, shoulder, or pavement

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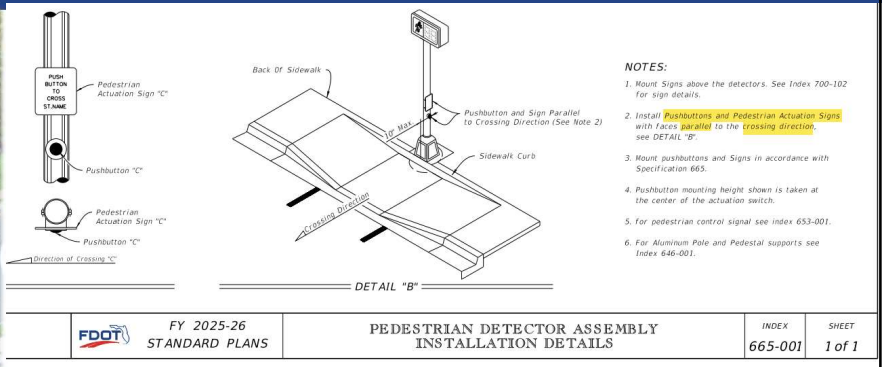
Pedestrian Pushbutton Design Standards 665-001



FDOT	FY 2025-26 STANDARD PLANS	PEDESTRIAN DETECTOR ASSEMBLY INSTALLATION DETAILS	INDEX 665-001	SHEET 1 of 1

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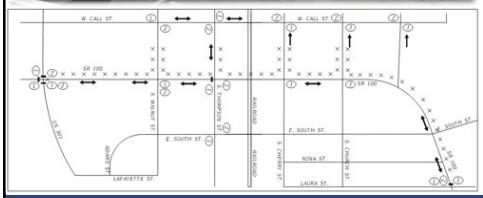
Key Takeaways and Implementation Strategy



Design Phase Integration

Incorporate ADA compliance and accessibility details in design plans.

Construction Oversight

Implement field inspection focused on ADA accessibility and provide guidance.

Post-Construction Verification

Conduct thorough field reviews to verify compliance with ADA standards

Continuous Improvement

Share lessons learned across project teams and incorporate findings into standard practices

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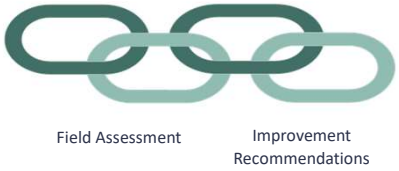
Projects Reviewed: Scope and Findings



18 counties, 14 projects (10 state roads and 4 Local Agency Program LAP) resurfacing to pedestrian improvements

Project Selection

Diverse project types across District 2

Compliance Assessment

Curb ramps, pushbutton orientation, and TTCP

Key Findings

Pushbuttons, DWS, Sidewalk Access

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Project Locations and Route Planning

Tuesday Route

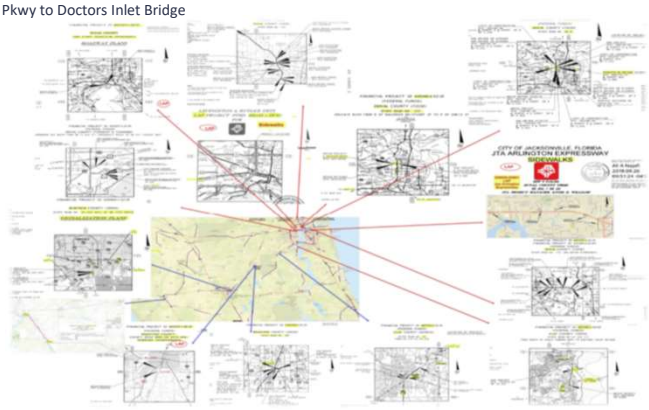
Fanning Springs, Gainesville, Starke, Middleburg

- Fanning Springs State Park (US 19)
- US 441 at SW 14th Drive, Gainesville
- SR 100 Starke RR Overpass
- SR 21 from CR 215 to CR 218

Wednesday Route

Eagle Harbor Pkwy, Arlington Expressway, I-95 Interchanges

- SR 15 (US 17) from Eagle Harbor Pkwy to Doctors Inlet Bridge
- SR 115 Arlington Expressway
- I-95 @ US 1/MLK
- I-95 @ SR 122 Gulfair Blvd



Thursday Route

Soutel Drive & Lem Turner Road to 647 Cassat Ave, including school-adjacent projects

- Smart Pope Livingston Elementary School and Eugene J Butler Seventh Grade Center
- Park St & Margaret St pedestrian improvements
- Edgewood Ave South from Roosevelt to Cassat Ave

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US 1 Concrete Rehab: ADA Compliance

- When Curb Ramps and Sidewalks were realigned at US 1 & King St.,
  - Existing **pedestrian push buttons were no longer** compliant with 10" reach
  - With no approved APL solutions for the condition
  - The signal contractor fabricated a custom metal pipe **extenders**

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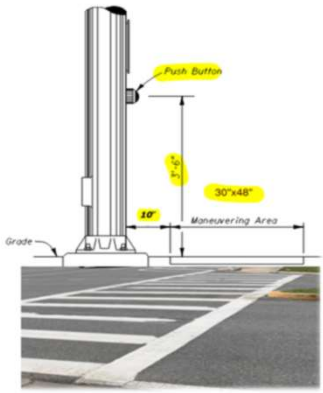
Pedestrian Push Button Extender within 10” Reach

- Close-up view of metal pipe extender with threaded ends and couplers
- Fabricated by signal contractor
- Pedestrian push button ADA compliance.



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I-95 (Fuller Warren Bridge) Shared-Use Path

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I-95 (Fuller Warren Bridge) Shared-Use Path

- **Project Goal:** I-10/I-95 operational improvements enhance safety and traffic flow.
- **Key Feature:** Fuller Warren Shared Use Path connects Riverside and San Marco for pedestrians and bicyclists.
- **St. Johns River Crossing: 1st Interstate** & 3rd non-vehicle pedestrian crossing over **St. Johns River**, joining Main St and Acosta.
- **High Usage:** Over 14,000 monthly users.
- **Path Details:** 4,654'long, 12'wide, with 2 scenic overlooks.
- **Access Points:** Riverside Ave., Palm Ave., and behind Nemours Children's Hospital.
- **Ribbon Cutting 2023:** Led by Caleb Prewitt, Special Olympics athlete medalist and trailblazer.
- **Cost:** $20 million investment in community mobility and safety.

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I-95 (Fuller Warren Bridge) Shared-Use Path

Riverside Avenue Scenic loop access

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FDOT D2 ADA QAR Lessons Learned

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ADA QAR Results

ADA COORDINATOR ZEKE HAYES

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Turtle Racing Championship

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D3 ADA QAR

- 13 Projects Reviewed in Person
- 347 Sidewalk Segments Reviewed by Video Log (78.9 Miles)
- 100 Sites Verified by District 3 Staff

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Biggest Issues

- Pedestrian Signal Button and Signage Averaged 81.8% Compliant
  - Issues Include Orientation and Reaching Distance
- Detectable Warning Surface Averaged 81.6% Compliant
  - Issues included Mat Deterioration, Placement, and Coverage

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Pedestrian Signal Button and Signage

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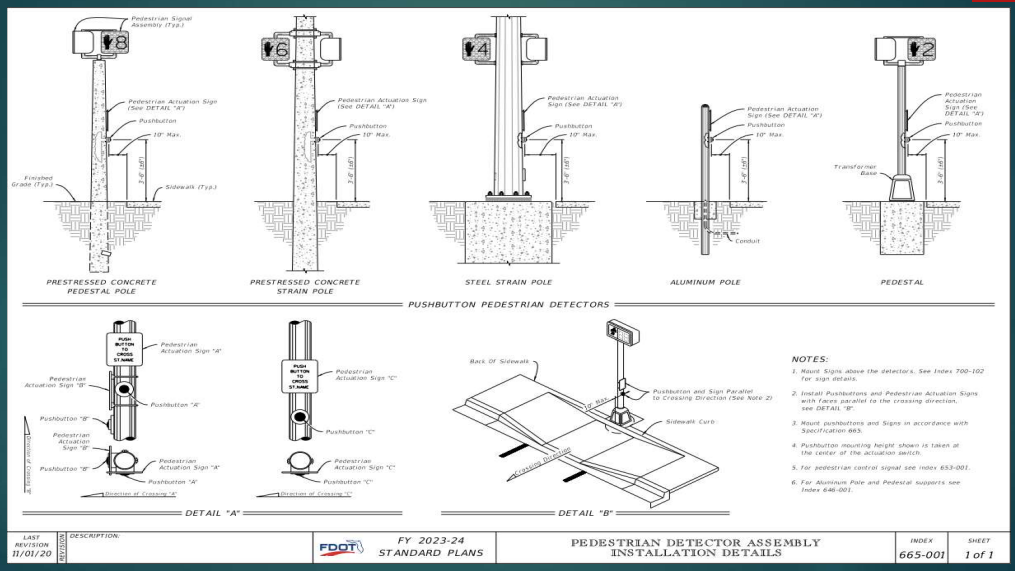
Where to Find Guidance



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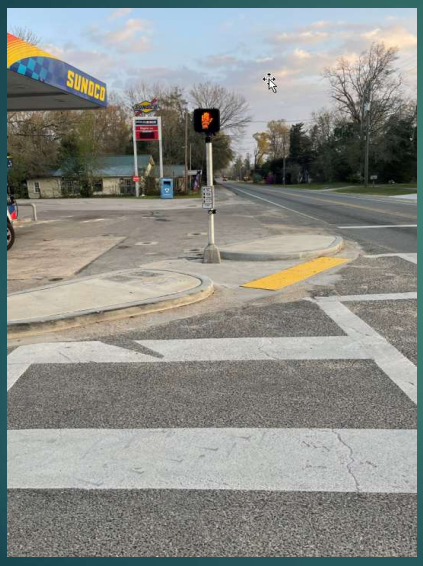
Which Is Correct?



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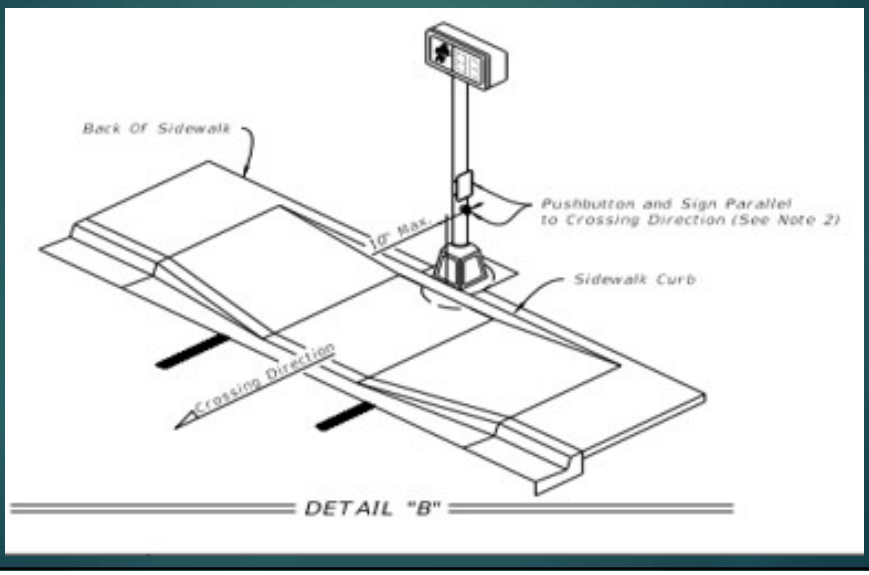
Push Button & Sign Orientation



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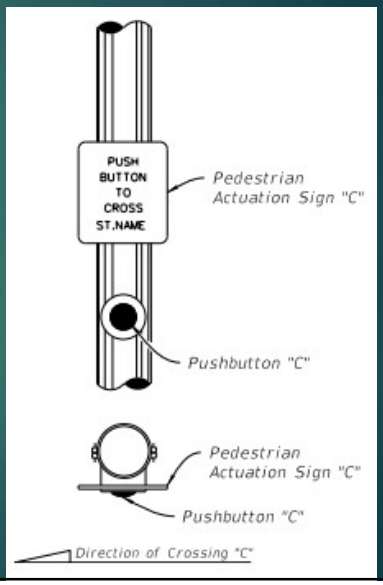
Proper Pushbutton and Sign Configuration

- Standard Plans 665-001
- Signage and Button Should ALWAYS be Parallel to the Crossing Direction
- Button Mounted at a Height of 3'6" +/- 6"



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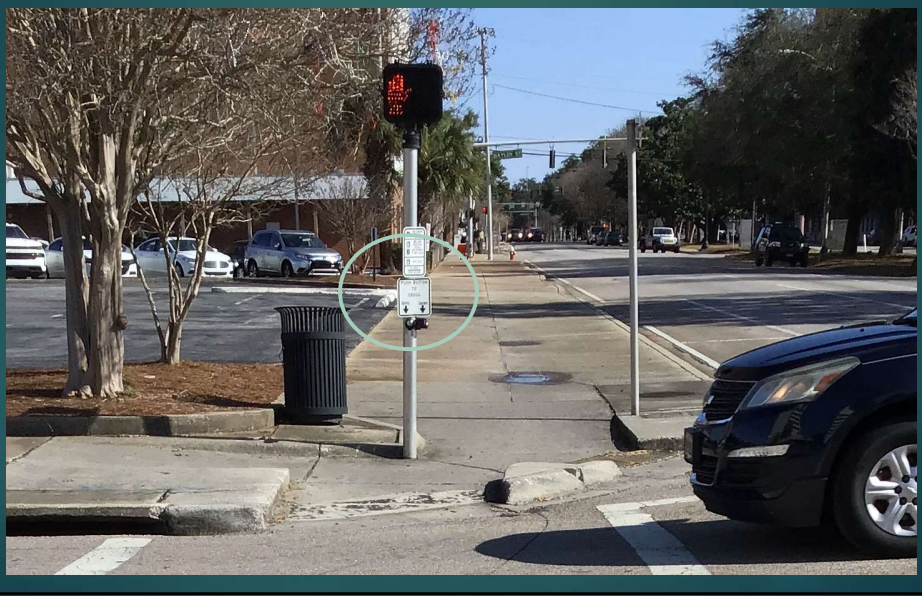
Sign Placement



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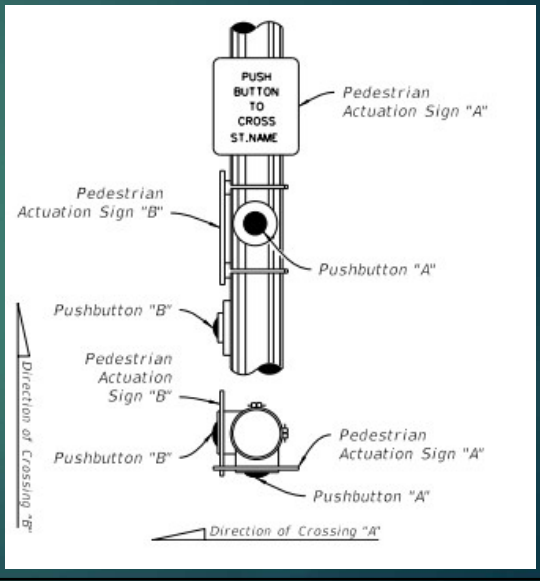
Proper Pushbutton and Sign Configuration

- Standard Plans 665-001
- Using a Single Poll for TWO Crossings



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Reaching Distance From Flat Level Ground Should Not Be More Than 10”

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Detectable Warning Mats

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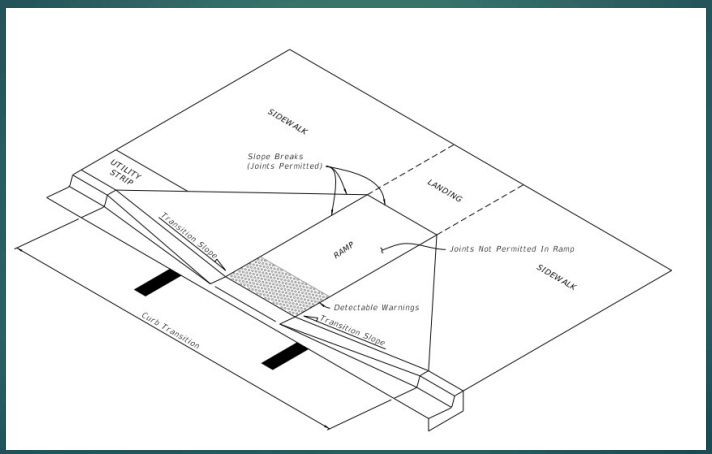
ADA Detectable Warning Surface



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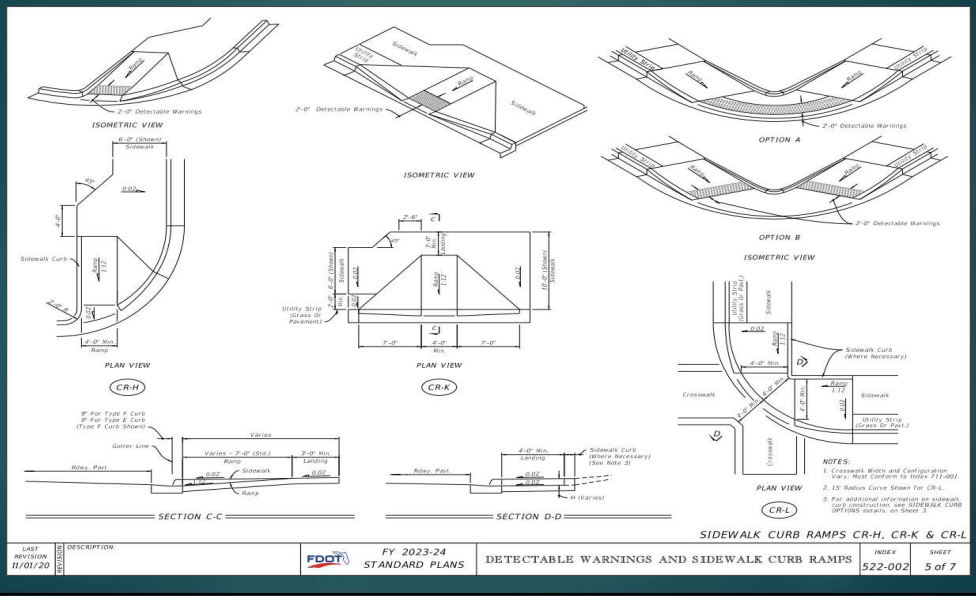
Where to Find Guidance



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Common Issues

- Mat Deterioration
- Improper Placement
- Improper Coverage

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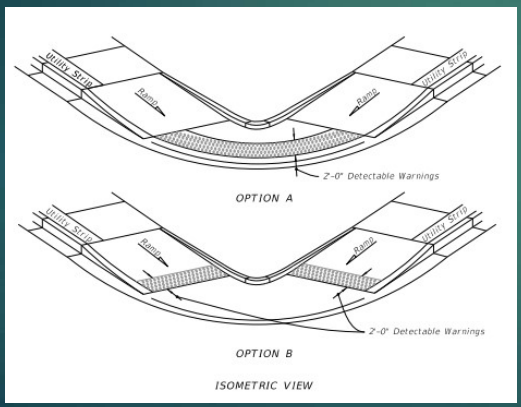
Improper Placement

- More Than One Option Within Standard Plans May Be Applicable At The Same Location



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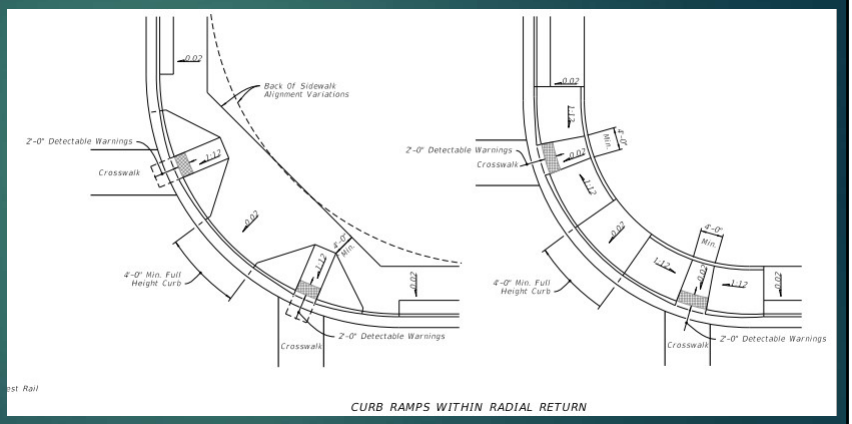
Improper Placement



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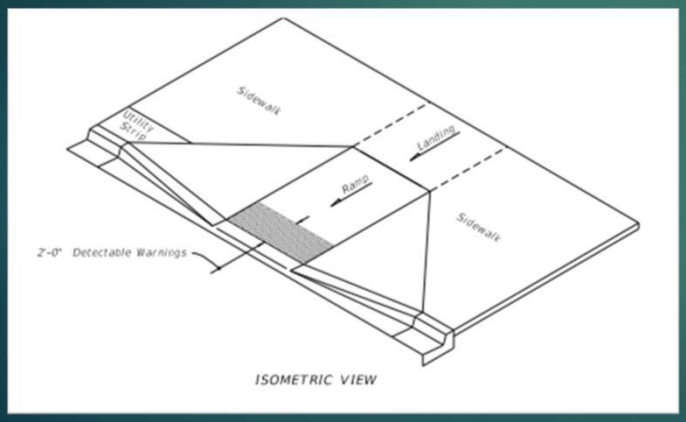
Improper Coverage

- 2 Foot Detectable Warnings Required



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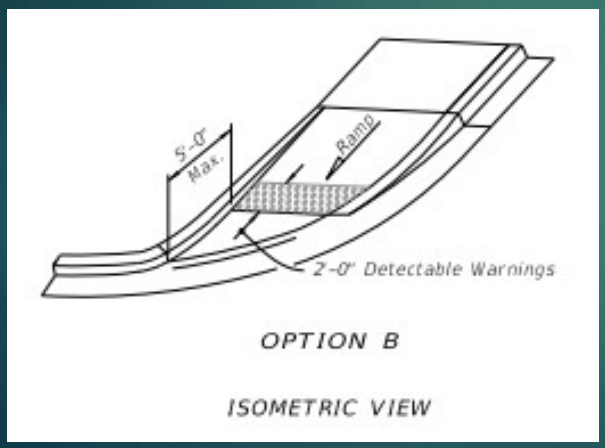
Improper Coverage

- Mats Must Not Be More Than 5 Feet From The Leading Edge of The Sidewalk



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Additional Locations

- Mats Should Be Present At All Stop Controlled Intersections And Railroad Crossings

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October 28-29, 2025
Orlando, FL

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FY 24/25 AMERICANS WITH DISABILITIES QUALITY ASSURANCE REVIEW – D5

Loreen Bobo, PE | District 5 Safety Administrator
Kari Pucker, PE, PTOE, RSP_1 | Gresham Smith

Transportation Symposium Website

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Introduction

QAR meetings & field reviews conducted **week of October 28, 2024**

CO Office of Design requested D5 projects completed FY 24

FOCUS

- Inclusion of TTC details
- Compliance with accessibility per FDM & Standard Plans

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Introduction

QAR OBSERVATIONS

1. **Lack of details in TTCP**
2. **Non-compliant pushbuttons & sign orientation**
3. **Absence of detectable warning surfaces**

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Observation 1

Lack of details in TTCP for contractor to:

I. Accurately bid

II. Meet EOR intent

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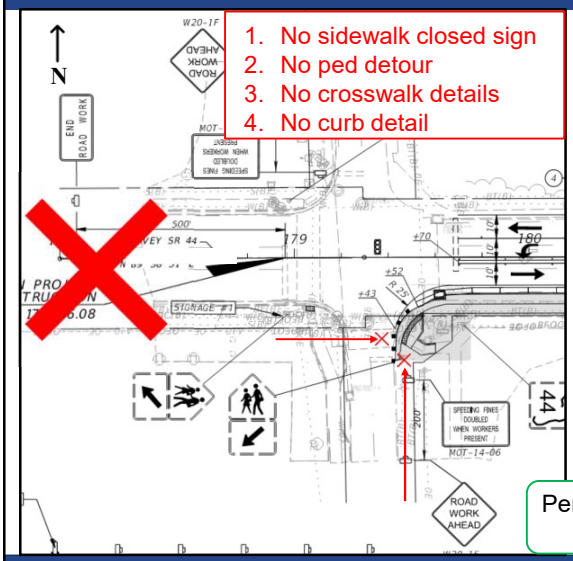
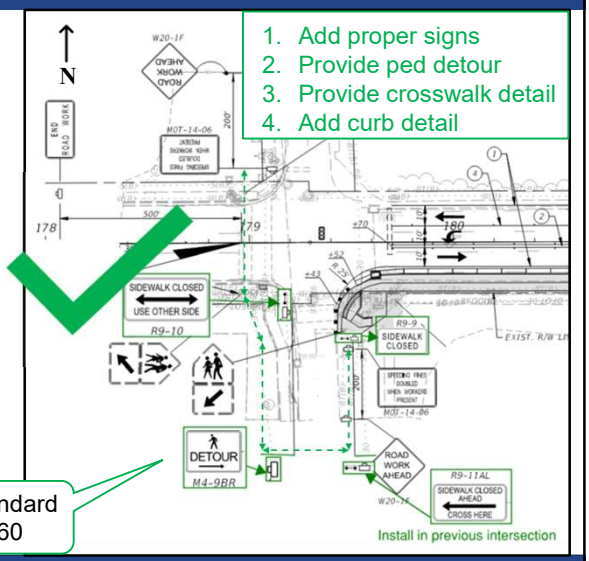
Observation 1 – Example 1





Per FDOT Standard Plan 102-660

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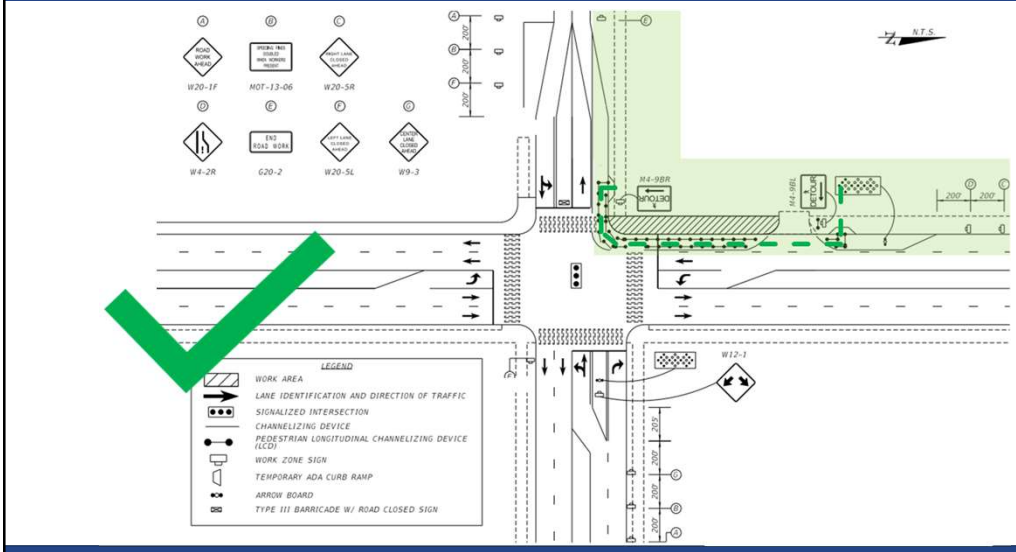
Observation 1 – Example 2



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Observation 1 – Example 3

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Observation 2

Non-compliant pushbuttons & sign orientation

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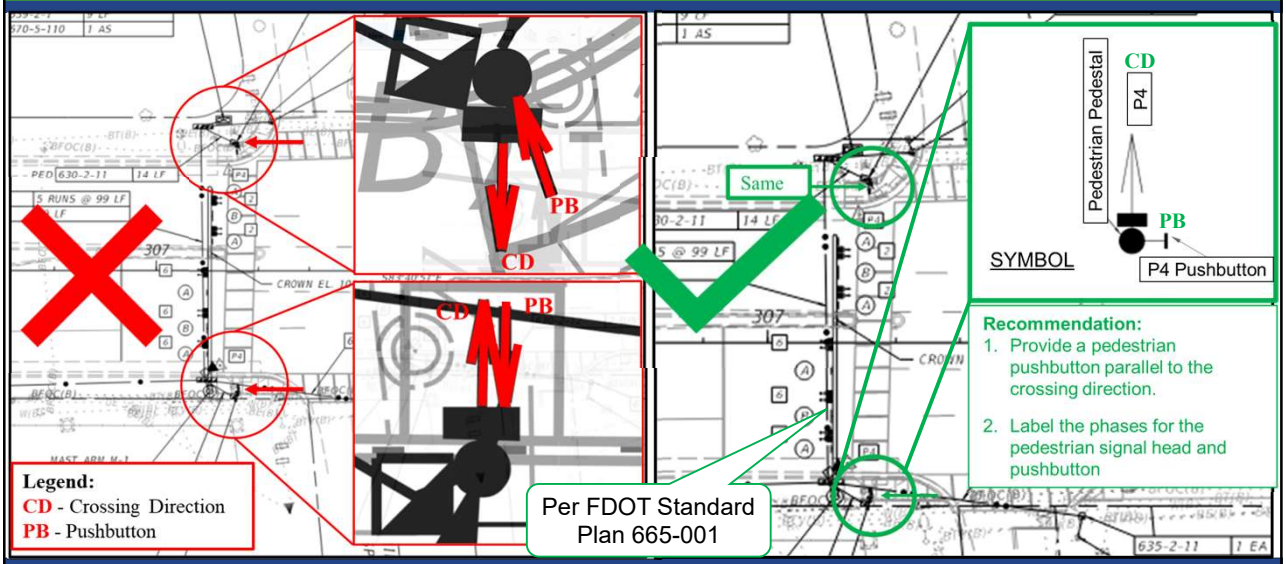
Observation 2 – Example 1



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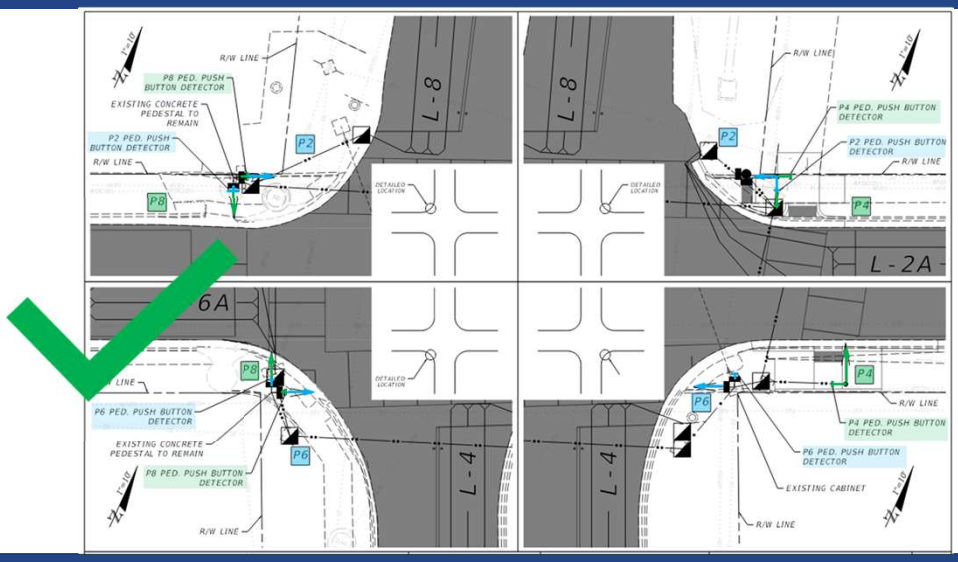
Observation 2 – Example 2



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Observation 2 – Example 3

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Observation 2 – Example 4

Midblock Pedestrian Detector

Standard Pedestrian Detector

FDOT APL 665

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Observation 3

Installation of Detectable Warning Surfaces

I. Missing

II. Not extending full width of the walking surface & 2’ deep

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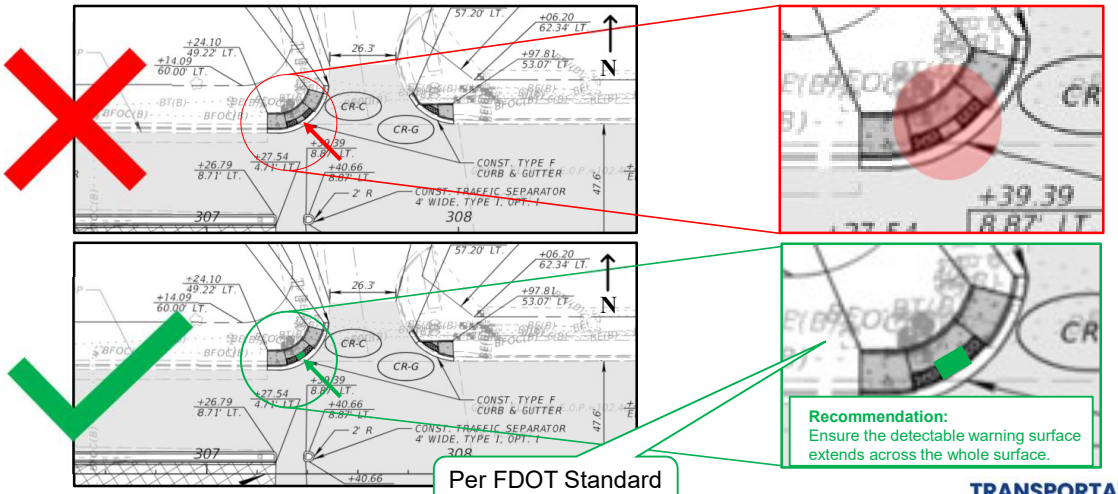
Observation 3 – Example 1



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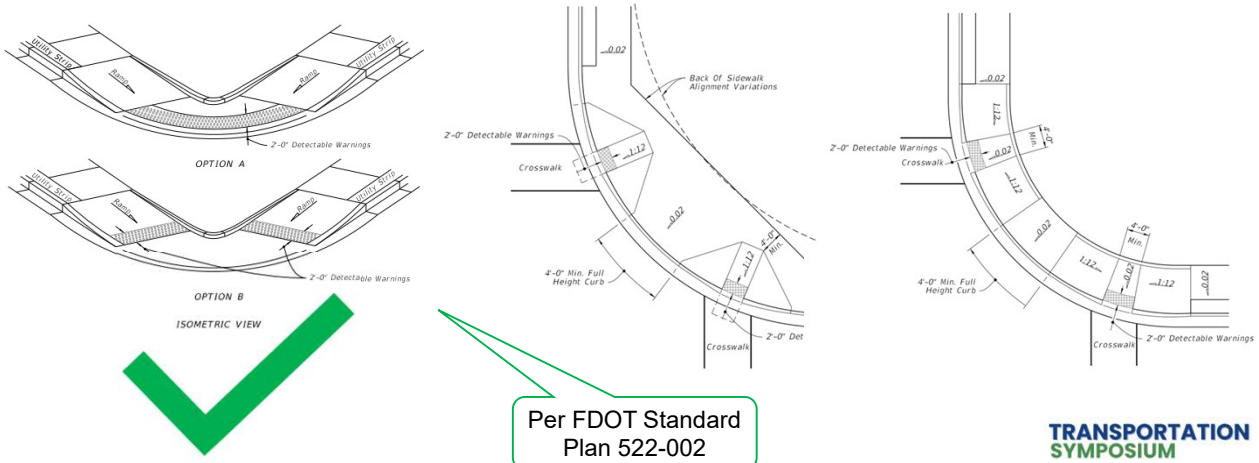
Observation 3 – Example 2



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Observation 3 – Example 3

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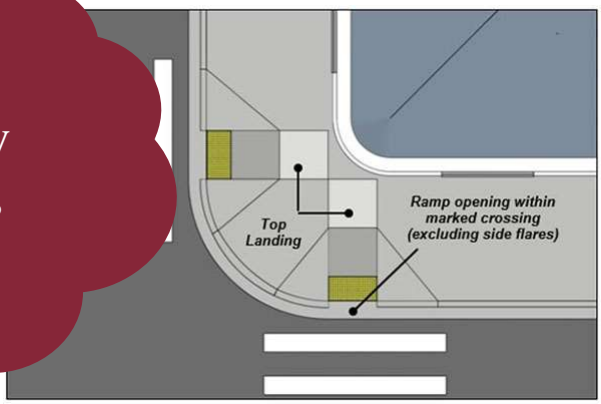
Observation 3

Can we separate crossings so that they are more directional, aiding push-button placement?



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November 14th

National Seatbelt Safety Day

Protecting you *and* your loved ones:

Safety belt use reduces the risk of fatal injury by 45% (NHTSA)

Let's Get Everyone Home *Safely*

FDOT

TargetZeroFL.com

TARGET ZERO

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Contact Us

- Brad Bradley, FDOT State ADA Coordinator – 850-414-4295
- Derek Dixon, D2 Bike/Ped & ADA Coordinator – 904-360-5653
- Belqis Majboor, D2 District Quality Engineer – 386-961-7444
- Zeke Hayes, D3 Bike/Ped & ADA Coordinator – 850-330-1487
- Loreen Bobo, D5 Safety Administrator – 386-943-5446
- Kari Pucker, D5 Safety Consultant – 904-328-2105

QUESTIONS???

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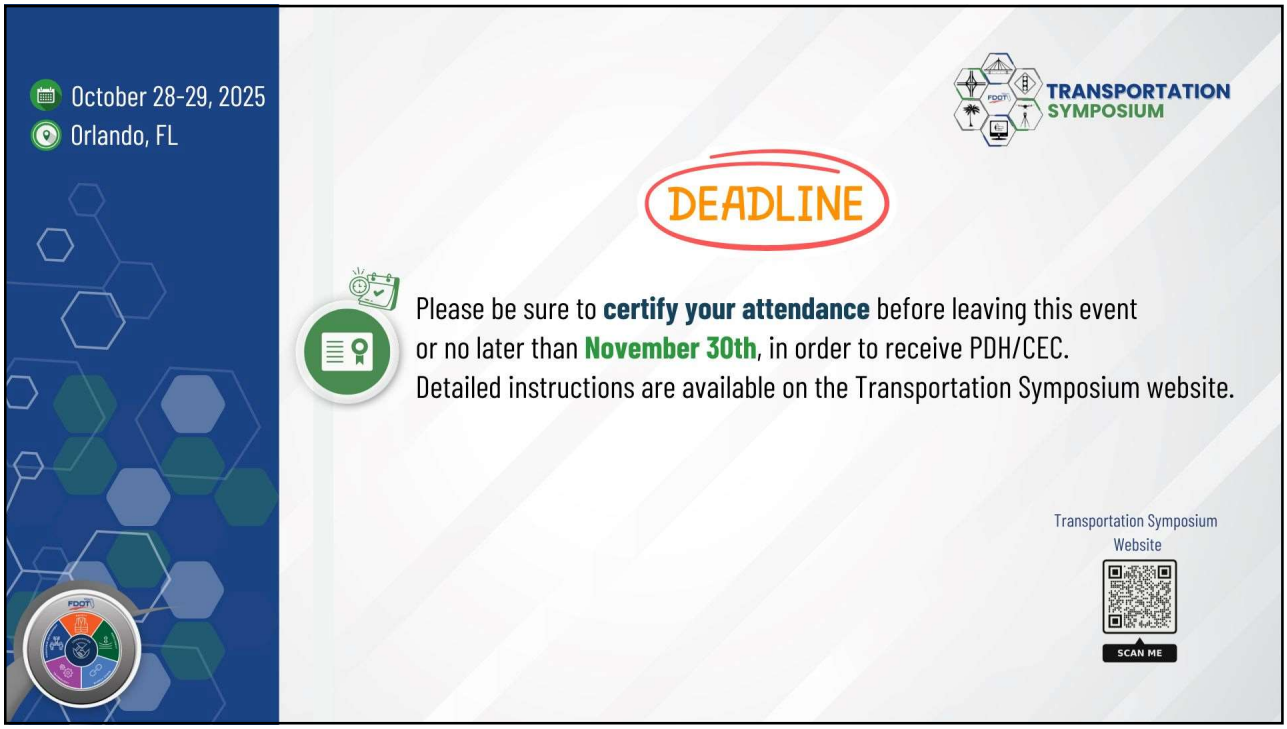
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